



11/17/99

Please type a plus sign (+) inside this box → ☐Approved for use through 09/30/2000. OMB 0651-0032
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))	Attorney Docket No.	Schepp-Turner - Utility
	First Inventor or Application Identifier	Schepp
	Title	Patient Information System And Method of Using
	Express Mail Label No.	EL 43577657US

APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.	ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231
---	--

<p>1. <input checked="" type="checkbox"/> * Fee Transmittal Form (e.g., PTO/SB/17) (Submit an original and a duplicate for fee processing)</p> <p>2. <input checked="" type="checkbox"/> Specification [Total Pages 31] (preferred arrangement set forth below)</p> <ul style="list-style-type: none">- Descriptive title of the invention- Cross References to Related Applications- Statement Regarding Fed sponsored R & D- Reference to Microfiche Appendix- Background of the invention- Brief Summary of the invention- Brief Description of the Drawings (if filed)- Detailed Description- Claim(s)- Abstract of the Disclosure <p>3. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets 9]</p> <p>4. Oath or Declaration [Total Pages 3]</p> <p>a. <input checked="" type="checkbox"/> Newly executed (original or copy)</p> <p>b. <input type="checkbox"/> Copy from a prior application (37 C.F.R. § 1.63(d)) (for continuation/divisional with Box 17 completed) [Note Box 5 below]</p> <p>i. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).</p> <p>5. <input type="checkbox"/> Incorporation By Reference (useable if Box 4b is checked) The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered to be part of the disclosure of the accompanying application and is hereby incorporated by reference therein.</p>	<p>6. <input type="checkbox"/> Microfiche Computer Program (Appendix)</p> <p>7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)</p> <p>a. <input type="checkbox"/> Computer Readable Copy</p> <p>b. <input type="checkbox"/> Paper Copy (identical to computer copy)</p> <p>c. <input type="checkbox"/> Statement verifying identity of above copies</p>
---	--

ACCOMPANYING APPLICATION PARTS	
8. <input type="checkbox"/> Assignment Papers (cover sheet & document(s))	
9. <input type="checkbox"/> 37 C.F.R. § 3.73(b) Statement (when there is an assignee)	<input type="checkbox"/> Power of Attorney
10. <input type="checkbox"/> English Translation Document (if applicable)	
11. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449	<input checked="" type="checkbox"/> Copies of IDS Citations
12. <input type="checkbox"/> Preliminary Amendment	
13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Should be specifically itemized)	
14. <input checked="" type="checkbox"/> * Small Entity Statement(s) (PTO/SB/09-12)	<input type="checkbox"/> Statement filed in prior application, Status still proper and desired
15. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed)	
16. <input type="checkbox"/> Other:	

NOTE FOR ITEMS 1 & 14: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

17. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: _____

Prior application information: Examiner _____ Group / Art Unit: _____

18. CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number or Bar Code Label _____ or <input checked="" type="checkbox"/> Correspondence address below					
(Insert Customer No. or Attach bar code label here)					
Name	Michael B. McNeil Liell, McNeil & Harper				
Address	511 S. Madison Street P.O. Box 2417				
City	Bloomington	State	IN	Zip Code	47402-2417
Country	USA	Telephone	812-333-5355	Fax	812-333-3173

Name (Print/Type)	Michael B. McNeil	Registration No. (Attorney/Agent)	35,949
Signature		Date	11/17/99

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))—INDEPENDENT INVENTOR**

Socket Number (Optional)
Schepp-Turner

Applicant, Patentee, or Identifier: Turner et al.

Application or Patent No.: _____

Filed or issued: _____

Title: Patient Information System and Method of Using Same

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.
☐ the application identified above.
☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Nicki C. Turner

Sharon L. Schepp

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

Nicki C. Turner
Signature of inventor

Sharon L. Schepp
Signature of inventor

Signature of inventor

Date

Date

Date

Description

PATIENT INFORMATION SYSTEM AND METHOD OF USING SAME

Technical Field

5 The present invention relates generally to a patient information system, and more particularly to a patient information system that includes a publicly accessible computer server and an access limiting security subsystem.

10 Background Art

 When a patient is admitted to a hospital or other treatment center there are often a number of family members that must be or desire to be contacted and/or informed regarding a course of treatment and related patient information, such as release dates,
15 etc. Likewise, there are a number of third parties who contact caregivers with questions or concerns about a patient in their care. Physicians and other caregivers often spend an unnecessarily large part of their time attempting to contact these concerned parties or responding to the same questions and
20 concerns multiple times for different factions of the group of persons interested in a particular patient. Time consuming problems also arise routinely when two different family members believe that they have received apparently conflicting information from the physician or other caregiver.

25 For instance, often more than one family member is involved in the decision making process regarding treatment of a

patient. In these situations, information usually gets repeated to each family member separately due to the difficulties associated with organizing a meeting involving all family members and all treating caregivers. Often these family members forget,

5 misinterpret or misunderstand what was said, increasing friction and leading to disagreements between family members. This inability to understand and assimilate the information provided can also lead to increased opportunities for litigation, which also dominates an unnecessarily large amount of physicians' and
10 caregivers' time and financial resources.

A more efficient and consistent method of communication between caregivers and a patient's family members and friends is therefore desirable to allow caregivers to devote more of their time to patient treatment. This desire for a less time consuming
15 and more reliable method of communication must be balanced, however, with the need to maintain confidentiality of a patient's medical records. In this respect, a communication system that meets the demands of caregivers and family members must also provide adequate security to protect a patient's confidential
20 medical records and background information.

The present invention is directed to overcoming one or more of the problems set forth above and to providing a more efficient and consistent method of communication that adequately protects a patient's confidential records.

Disclosure Of The Invention

In one aspect of the present invention, a patient information system comprises a computer server having a patient information forum for at least one patient. Each of the patient
5 information forums contain information regarding an individual patient. A publicly accessible computer output device is networked to the computer server. Also networked to the computer server is a publicly accessible computer input device. A security subsystem is operably positioned between the patient
10 information forum and the input device.

In another aspect of the present invention, a method of exchanging information regarding a patient first comprises the step of establishing a patient information forum for a particular patient on a computer server. Next, the computer server is
15 networked into a publicly accessible computer network. Access to the patient information forum is then limited to a predetermined group of persons.

In yet another aspect of the present invention, a software program comprises a means for establishing a patient information
20 forum on a publicly accessible computer network. A means for limiting access to the patient information forum to a predetermined group of persons is also included. Additionally, a means for posting information regarding a particular patient on the patient information forum is included.

Brief Description Of The Drawings

Figure 1 is a schematic view of a patient information system according to the present invention.

Figure 2 is a pictorial representation of the various levels of security and privileges according to another aspect of the present invention.

Figure 3 is a diagrammatic representation of the data input structure of the present invention.

Figure 4 is an example of an administration control screen according to the present invention.

Figure 5 is an example of a patient detail screen according to the present invention.

Figure 6 is a diagrammatic representation of the message posting structure for responsible and non-responsible parties according to the present invention.

Figure 7 is a diagrammatic representation of the message posting structure for administration and staff members according to the present invention.

Figure 8 is an example of a sign-on screen according to the present invention.

Figure 9 is an example screen within a patient information forum according to the present invention.

Best Mode Of Carrying Out The Invention

Referring now to Figure 1 there is shown a schematic view of a patient information system 10 according to the present

invention. Information system 10 is preferably composed of four elements, including the environment, the file system, the languages and detailed processing used and the security system. A computer server 12, which is preferably located at a suitable place such as within treatment center 11, controls information system 10 and serves as an integral component of the environment of information system 10. The environment including computer server 12 is preferably a PC network, however, other systems, such as a legacy mainframe system, could be used. A PC network is preferable because the PC allows for quick and easy deployment and it also allows for very cost effective graphics and graphical interfaces. While in most instances, treatment center 11 will be a hospital, it should be appreciated that the present invention could also find use in other facilities where patients remain institutionalized for treatment, such as nursing homes, outpatient clinics, and in-patient clinics, etc.

Information system 10 utilizes an indexing file system, such as VBISAM sold by Software Source, Inc., for information management. While VBISAM is preferable, it should be appreciated that other indexing file systems, such as those sold under the Trademarks ACCESS, INFORMIX and ORACLE, could alternatively be used. The programming language used for the main program modules of information system 10 is preferably Microsoft Visual Basic. The help tips and file location searches are preferably programmed in another programming language,

such as Microsoft C. While these languages are preferable, it should be appreciated that the various modules and components of information system 10 could be programmed in virtually any language with varying degrees of processing efficiency.

5 Returning now to the hardware for information system 10, computer server 12 is connected to a variety of on-site workstations 15 via internal communication lines 26. These workstations 15 are preferably placed in various locations throughout treatment center 11. A number of workstations 15
10 should be placed in locations where concerned parties, such as responsible family members, non-responsible family members and friends of the patient will be able to access information system 10. Examples of these publicly accessible locations would be the waiting room, patient rooms, the ICU area, the CCU area
15 and the emergency room. In addition to those workstations 15 contemplated for concerned party use, a number of workstations 15 should preferably be placed in locations such that caregivers and other employees of treatment center 11 would be the primary users. These locations could include the admitting
20 department, the billing department, the nurses station, the physician's office and workstation and the pharmacy. While a number of desirable locations for workstations 15 have been described, it should be appreciated that the present invention contemplates workstations that could be located in any
25 convenient or necessary location throughout treatment center 11. The appropriate number and availability of workstations 15 for

the facility would be influenced in part by such factors as the nature and size of the facility itself.

Workstations 15 are preferably kiosks that include one or more computer terminals 16 connected to server 12. Each
5 terminal 16 should include a computer output device, such as a computer monitor, and a computer input device. While a keyboard and a mouse will be sufficient input devices in most instances, it is preferable that some terminals include at least one computer interface for users with special needs. Examples of
10 these special needs interfaces include those for the visually impaired, a touchscreen interface or a voice recognition interface. By incorporating at least one of these special needs interfaces in terminals 16 connected to server 12, the present invention will be more accommodating to those persons who might otherwise
15 have difficulty accessing information system 10, such as the elderly or those with a physical disability. A document scanner 17 is also preferably included in one or more of the workstations 15 that are primarily available for caregiver use. Inclusion of document scanner 17 can allow caregivers to scan such things as
20 test results or x-rays for review by responsible parties or other caregivers.

In addition to document scanner 17, a data storage device 18 is also connected to server 12. Data storage device 18 is included to store patient information that is transmitted via
25 information system 10. Once stored, this information can be accessed at a later time by caregivers, responsible parties, or the

patient himself. In addition to test results or x-rays, data storage device 18 is intended to store messages posted regarding the patient and the course of treatment in case they are needed in the future. For example, information stored in data storage
5 device 18 could be used by treatment center 11 or a caregiver in the event that litigation regarding the course of treatment for a particular patient is initiated at some time in the future.

In addition to those terminals connected to server 12 by internal communication lines 26, information system 10 is
10 designed to be accessed from off-site locations 30 via a publicly accessible computer network such as the Internet. For instance, a concerned party could access information system 10 from an off-site location 30. Server 12, which is also an Internet server, could be networked into a publicly accessible computer network
15 to allow third party individuals to access information system 10 from locations outside of treatment center 10. A computer input and output device 32 in the concerned party's home or office could be networked to server 12 via publicly accessible Internet communication lines 28 to allow the user to access information
20 system 10. This would allow the concerned party to access current information and/or leave questions at any time of day or night from any off-site location. The ability to access information system 10 over the Internet would find particular usefulness for those concerned parties residing too far away from treatment
25 center 11 to be present during the patient's treatment, or for

those who were otherwise unable to be physically present when caregivers are available for questions.

Likewise, a physician could access information system 10 from his or her office 30 by connecting office computer 32 to server 12 via Internet communication lines 28. In this manner, a physician could answer questions and update information from his or her off-site office 30 without having to attempt to personally communicate with all of the patient's concerned parties. Similarly, a hospitalist, a physician who is primarily based in treatment center 11, could utilize information system 10 to access records and other information from a referring physician. For instance, the hospitalist and the referring physician could establish a dialogue in information system 10 via Internet communication lines 28 to exchange information regarding the patient. A direct dial-up access could be substituted for an internet connection. The hospitalist would therefore be spared from traveling between treatment center 11 and the referring physician's office 30 to secure needed treatment information.

As previously indicated, the desire for a more efficient and accessible system for physician and concerned party communication must be balanced with the need to maintain adequate security of the patient's medical records and other confidential information. Therefore, a security system, preferably a multi-level security clearance system, is one of the key elements of information system 10. Referring now to Figure

2 there is shown a schematic view of the security clearance levels
created by information system 10. The security levels 50-80 are
operably positioned between the input device and a patient
information forum that exists for the patient. Clearance through
5 the security levels is preferably obtained utilizing passwords
assigned to a user at admission, in the case of a patient, or the
initiation of employment, in the case of a caregiver or staff
member of treatment center 11. For example, a treating
physician may have a single password that allows total access to
10 all patients in his or her care, etc. However, it should be
appreciated that other security means could be substituted, such
as security keycards. Additionally, while four security levels
have been illustrated, it should be appreciated that this number
could vary to better meet the needs of the individual treatment
15 center 11.

The four predetermined security levels illustrated in Figure
2 determine the amount of access that users will be granted upon
entry into information system 10. Once a patient is admitted to
treatment center 11 for treatment of his or her particular
20 ailment, one or more passwords are created to be used in
conjunction with the patient's name. The patient, guardian or a
person having power of attorney then determines who will be
given the passwords, thus allowing the patient or other person
with authority to determine who has access to information, and
25 how much access that person should be allowed. For instance, a
user who is permitted access into a first security level 50 might

be a non-responsible third party. Members of this group could include anyone not having any legal responsibility for the patient, such as friends or distant relatives of the patient. Those gaining access to this security level might have the ability to leave

5 questions for the patient and access answers to these questions. In addition, they might have general access to non-confidential discharge information and non-confidential background information regarding the treating physician. This party may not, however, be able to access more confidential information such as

10 patient diagnosis information or treatment records. Those skilled in the art will appreciate that some minimal information such as discharge data may be available to non-responsible parties but more detailed information, such as post-discharge instructions, would not be available to non-responsible persons.

15 A second security level 60 could be created to allow responsible parties such as a person holding a power of attorney, the patient's spouse, parent or guardian, or the patient himself to have a greater degree of access to information relating to the patient. In this instance, the user may be able to access

20 background information and medical records in addition to having the ability to post questions to caregivers or the patient and to read postings regarding the patient. This level might also include links to other databases, such as WebMD, Dr. Koops website and others relating to general information regarding

25 medical information and/or a particular ailment or condition.

A third security level 70 could be created for users who are employed in the administrative departments of treatment center 11, such as the billing department or the business office. In addition, the person or persons responsible for maintaining
5 information system 10 and its security could be included in this group of users. These users could sign in from the same screen as responsible or non-responsible parties, however, they could select a function key to notify information system 10 that they were neither a responsible nor a non-responsible party. These
10 users would not only be able to access medical records and to post and answer questions, but, in addition, they could input and edit information such as billing/payment information, dietary restrictions, insurance and employment information and other information of that nature. These users might not, however, be
15 able to update or change information relating to medication dosages or other information regarding the course of treatment currently being pursued.

Finally, a fourth security level 80 might be created for physicians, nurses or other caregivers. Once again, users from
20 this group could enter information system 10 through the same sign in screen as responsible or non-responsible parties, however, selection of a function key could notify information system 10 that they were either an administrative employee or a caregiver. Proper entry into this level could allow the user full ability to
25 access information and update records, in addition to answering questions left by concerned parties. This security level is

contemplated to allow the user to have total access to the patient's information. Once again, it should be appreciated that while four security levels have been illustrated, this number could be reduced or increased to meet the needs of the treatment center and patients. For example, first security level 50 and second security level 60 could be merged into a single security level for all concerned parties. Alternatively, the number of security levels could be increased by further dividing fourth security level 80 into multiple levels for each class of caregiver such that there would exist separate security levels for nurses, pharmacists and physicians. In this manner, the present invention can be adapted to meet the needs of the particular treatment center. In another security aspect, the present invention preferably creates an audit trail by recording time, identity and other information to track each incident in which the system is accessed. In addition, the system also preferably logs all unsuccessful attempts to access the information system.

Referring now to Figure 3 there is shown the data input structure of information system 10. Figures 3-5 further illustrate options available to a user once information system 10 has been accessed, depending on the level of security to which that person is entitled. For instance, a user that is classified as an administrator, such as an employee working in the billing department or the business office, could add or edit information regarding staff, patients or departments. A party signing on to information system 10 under this classification would encounter

an administrator control screen (Figure 4) that includes a number of options to allow the administrator to continuously update information within information system 10. From this screen, the administrator could add new patients or staff, edit patient
5 information or staff information, edit any information associated with the various departments of treatment center 11, and read all read and unread messages that have been posted to the system and intended for the particular administrative person currently signed on. For instance, by selecting the add patient
10 option, an administrator could input the passwords unique to the particular patient as well as other initial data such as social security number, date of admission, address or date of birth. In addition, once a patient is added into the system via this screen, information system 10 could assign a unique ID number to the
15 patient or forum, preferably composed of the current year, month and day and a seven digit patient number.

In addition to data input from the add patient screen, more detailed information, such as allergies, reference doctor and consulting doctor could be added to the patient information,
20 preferably by selection of a detail icon located on the add patient screen. The patient detail screen (Figure 5) could also display the patient's message status and allow the administrator to view existing messages or send messages. In addition, the patient's responsible party, employment and insurance data could be
25 entered from this screen and stored as part of the patient's master record.

Returning to Figure 4, the administrator could select the edit patient option to access the same screen accessed from the add patient option. Selection of the edit patient option would result in a select patient screen that would allow any number of 5 letters of a patient last name to initiate a search of the database and produce a list of all patients meeting the search criteria. Therefore, to access patient information through the edit patient option, the patient should have been previously entered via the add patient option, or they will not appear in the results of the 10 search. Use of the edit patient option also differs from use of the add patient option in that it allows changing of the patient's responsible and non-responsible party passwords, but not the patient name, social security number or date and time of admission. These four pieces of information are considered the 15 indexed file system's key, and can therefore only be entered or altered from the add patient option.

Returning once again to Figure 4, selection of the add staff or edit staff options from the administration control screen would allow the administrator to perform similar functions as those 20 performed using the add patient and edit patient options. Those persons categorized as staff members could include various caregivers, technicians, discharge planners and radiologists, as well as any employee of treatment center 11 who would have reason to use information system 10. The administrator could 25 input such data as date of employment, address, phone numbers, schooling and social security number using the add staff option.

Upon adding the staff member, information system 10 could assign a unique ID number, similar to that of the unique patient ID number, consisting of the year, month and day and a seven-digit number. Selection of the edit staff option would produce the same screens as the add staff option except the administrator would be presented with a change password option. Additionally, a staff selection screen, similar to the patient selection screen produced when the edit patient option is chosen, would be presented to allow the administrator to search the database for those names meeting a given name selection criteria.

Finally, an administrator could change information regarding the various departments of treatment center 11 by selecting the edit departments option. From this option, the administrator could print all the department codes and descriptions, list the department codes, display the department codes and descriptions, edit the department codes and descriptions, add department codes and descriptions or delete department codes and descriptions. This would allow the administrator to maintain an accurate list of departments and their descriptions as the needs and services of treatment center 11 change and grow.

Returning now to Figure 3, a user accessing information system 10 as a staff member would be able to view, but not edit or add, such information as staff data and certain patient information, including responsible party information, employment and insurance information. In addition to the above

abilities, staff members would also be able to review messages regarding treatment of the patient. Finally, those persons accessing information system 10 as a patient, a responsible party, or a non-responsible party would be able to view patient information as well as review messages regarding the patient's treatment. As illustrated in Figure 3, a responsible party user could access more detailed information regarding the patient, such as race, religious preference and allergies, than could a non-responsible party.

Referring now to Figures 6-7 there are shown message posting structures for responsible and non-responsible parties as well as for administration and staff members. As illustrated in Figure 6, a responsible party could submit messages to both administrators and staff assigned to treat the patient, as well as posting messages to the patient himself and/or the responsible party. Similarly, the responsible party could read or review messages posted from administrative employees, staff members or the patient. While a non-responsible party could read or review messages posted by any of these parties, as illustrated in Figure 6, the non-responsible party would preferably only have the ability to leave messages for the patient. Preferably, messages for the responsible party are automatically released to non-responsible parties after being read by the responsible party. Private messages for the responsible party are not released to non-responsible parties. When either the responsible or non-responsible party opts to review a message, information

system 10 could generate a list of messages, including date and time posted and format of the message. In other words, a symbol could be included with the message information to alert the concerned party as to whether the message is a text or audio message. In addition, in the case of audio messages, it is preferable that the length of the message is provided for the user so he or she may determine if the message should be reviewed presently or some time later when they have more time.

The ability for a patient or his responsible party to post and receive messages regarding a patient's treatment allows information system 10 to be a powerful tool for patient treatment by providing those concerned with an increased amount of information. This increased information can allow patients and responsible parties to make more informed decisions regarding treatment in addition to reducing the anxiety that is often associated with medical treatment. Additionally, because information from the caregiver is posted a single time, all concerned parties can view the same information, which can reduce the friction associated with information that has been repeated multiple times and possibly misinterpreted or misunderstood.

In addition to the above benefits, concerned parties now have the ability to post a question for the caregiver regarding treatment at any time, rather than waiting for the opportunity for a face to face consultation. When a patient is being cared for in a large treatment center, responsible parties usually can only

speak with the doctor when he or she is doing their rounds. This
 time is often short, and even more often is at a very early hour of
 the day. In addition to the concerns of parties not able to meet
 with the caregivers at these times, responsible parties may forget
 5 to ask questions during these consultations or may think of new
 questions after the consultation is over. When a patient or
 responsible party feels that not enough information was given
 them, or that their concerns were not adequately addressed, they
 are more likely to initiate litigation if treatment is not as
 10 successful as they desired. However, information system 10 can
 help lessen this threat of litigation because a patient or a
 responsible party can post a question or concern for the caregiver
 as it develops, and receive a follow-up without having to wait for
 another short consultation. In this manner, the likelihood of
 15 litigation can be reduced, thereby reducing the amount of time
 physicians must devote to lawsuits rather than patient treatment.

Returning now to Figure 7, administrative employees and
 staff members could preferably post and receive messages from
 other administrative employees, other staff members and the
 20 patient himself. When posting a message for the patient, the
 administrative employee or staff member could signify whether
 the message will be accessible to responsible parties only, or
 merely to responsible parties first. In the later case, the
 responsible party would have the option to release the message
 25 to non-responsible parties after viewing its content. In this
 manner, the administrator or staff member could release

sensitive information only to those persons responsible for the patient thus enhancing the privacy or security of information system 10.

Referring now to Figures 8-9, there are shown additional
5 screens that a user might encounter when accessing information system 10. These Figures will be used to help illustrate how a concerned party or caregiver would navigate through information system 10. It should be appreciated that these screens are being used for illustrative purposes only, and are not meant to limit the
10 scope of the present invention.

When a patient is admitted to treatment center 11 for treatment of an ailment, a patient information forum 20 is created on computer server 12 that contains information regarding the patient. Patient information forum 20 is
15 subdivided into a plurality of levels corresponding to security levels 50-80. The patient then selects, or is assigned, at least one password that can be distributed to a predetermined group of persons to allow them to access patient information forum 20. Preferably, the patient should select two passwords, a first for
20 himself and his responsible parties, and a second for all other persons who may wish to see and communicate with the patient and the attending staff. To maximize the number of passwords that information system 10 could accept, these passwords are preferably case sensitive and can include not only letters and
25 numbers, but symbols and spaces as well. By making the passwords case sensitive and allowing spaces, it should also be

appreciated that system security could be enhanced by requiring persons to not only have the correct characters, but also the correct case and spacing.

Once passwords are selected by the patient, and once the
5 patient or responsible party has tested the passwords to ensure
that they function adequately, they can be distributed to the
corresponding family members and friends. If one of these third
party individuals desires entry into information system 10, and
more particularly to patient information forum 20, that user must
10 first connect to computer server 12. This can be done either by
activating a terminal at one of the computer workstations 15
located at treatment center 11 or by networking with server 12
via the unique Internet address assigned to patient information
system 10. Upon connection to server 12, the user should
15 encounter an identification screen (Figure 8). To access patient
information forum 20, the user will usually be required to input
certain information, such as the patient's name, both first and
last, and a password. This password will determine the level of
access entitled to the user and will allow the user to pass through
20 at least one of the security levels operably positioned between
the computer input device and patient information forum 20.

Once the information is entered in the identification screen,
server 12 will evaluate the password to determine what level of
access, if any, the user will be granted. If the patient name and
25 password are not accepted, an error message should appear to
alert the user of the invalid password or patient name. If the

patient name and password are accepted, the user is granted entry to a level of patient information forum 20. Once in patient information forum 20, the user can read messages regarding treatment of the patient's ailment or leave questions regarding the same for a caregiver. As shown in Figure 9, a bulletin board is created in patient information forum 20 which serves as a location for dialogue. It is here that the user can access updates on the patient and the patient's ailment. This is also where the user could leave questions or concerns for caregivers. As illustrated, a link is created for a number of departments within treatment center 11. If the user desires information from a particular department, he or she would follow the appropriate link to access a database having information regarding the patient's ailment. By separating the information by source, it is also possible to deny access to postings from certain departments depending on the level of access allowed to the particular user. For instance, the user's password might entitle him or her to access information posted by the patient, the floor nurse and the physician but not from the other sources such as the billing department or the social worker.

By following the appropriate link, the user could access various postings from each source. This would be done by using a mouse to click on the appropriate button, or alternatively by using a predetermined keyboard shortcut, touching areas on a screen or using voice commands. After reading or listening to the information posted, the user would then have the opportunity to

respond to a particular notice, or alternatively, the user would be presented with an opportunity to leave questions for the caregiver or patient, and possibly to review questions and answers already posted. Likewise, at appropriate times during
5 the course of treatment, the caregiver could add updates to patient information forum 20 regarding the patient's ailment and the course of treatment, such as test results. Once the user has read all of the desired updates and/or left any questions or concerns for the caregiver, patient information forum 20 could be
10 exited by following the appropriate link, thus preventing subsequent unauthorized users from accessing confidential patient information.

The present invention is intended to increase the quality, efficiency and consistency of communication between caregivers
15 and responsible or concerned parties relating to a particular patient. By utilizing the present invention, physicians and other caregivers will no longer have to spend valuable time trying to locate these parties only to have to repeat the same facts and answer the same questions to a number of different parties.
20 Instead, the caregivers can post updates on a virtual bulletin board that is accessible only by those persons authorized by the treatment center or the patient. Likewise, a concerned party can leave questions for the caregiver that can be directly addressed without the need for actual, real-time interaction. The present
25 invention can therefore not only increase the quality of information that is exchanged between the caregiver and the

patient or his responsible party, but can even help reduce the amount of litigation that results from misunderstood or misinterpreted information. In this manner, the present invention can allow caregivers to spend more of their time
5 treating patients instead of locating concerned parties or responding to litigation.

It should be understood that the above description is intended for illustrative purposes only, and is not intended to limit the scope of the present invention in any way. For instance,
10 while the present invention has been illustrated using passwords as a means of obtaining access to different levels of secured sites, it should be appreciated that other means could be used, such as a security system based on personal identification numbers or keycards. Additionally, while a number of example screens have
15 been shown to illustrate the various features of the information system of the present invention, it should be appreciated that these are merely samples and are not meant to limit the invention in any way. Further, while four levels of secured access have been disclosed, it should be appreciated that a
20 different number of levels could be employed to better meet the needs of the facility. Additionally, while the present invention has been described for use in a hospital setting, it should be appreciated that it would find application in any facility in which patients are treated, such as nursing homes or assisted living
25 communities, outpatient clinics, etc. Further, the present invention could be used to keep third parties informed of the

condition of persons being detained for a non-medical reason,
such as persons incarcerated in a prison. Thus, those skilled in
the art will appreciate the various modifications could be made to
the disclosed embodiments without departing from the intended
5 scope of the present invention, which is defined in terms of the
claims set forth below.

50
51
52
53
54
55
56
57
58
59
60

Claims

1. A patient information system comprising:
 - a computer server having a patient information forum for at least one patient, and each said patient information forum
 - 5 containing information regarding an individual patient;
 - a publicly accessible computer output device networked to said computer server;
 - a publicly accessible computer input device networked to said computer server; and
 - 10 a security subsystem operably positioned between said patient information forum and said input device.
2. The patient information system of claim 1 wherein said patient information forum is subdivided into a plurality of levels,
- 15 and a different portion of said patient information forum being available at different ones of said plurality of levels; and
- said security subsystem being operable to limit access to said patient information forum to a predetermined group of persons, and limit access to different ones of said levels to
- 20 subsets of said predetermined group of persons.
3. The patient information system of claim 2 wherein said predetermined group of persons includes third party individuals identified by a particular patient to which said patient
- 25 information forum relates, and said third party individuals include relatives of said particular patient.

4. The patient information system of claim 1 wherein a particular patient has an ailment; and

said patient information forum for said particular patient
5 includes a link to a database having information regarding said ailment.

5. The patient information system of claim 1 wherein said patient information forum includes a location for dialogue.

10

6. The patient information system of claim 1 wherein said computer server is an Internet server; and

said patient information system has an Internet address.

15

7. The patient information system of claim 1 wherein said security subsystem includes an assignment of passwords to a predetermined group of persons that are approved for access to said patient information forum of a particular patient.

20

8. A method of exchanging information regarding a patient comprising the steps of:

establishing a patient information forum for a particular patient on a computer server;

networking said computer server into a publicly accessible
25 computer network; and

limiting access to said patient information forum to a predetermined group of persons.

9. The method of claim 8 wherein said establishing step
5 includes a step of dividing said patient information forum into a plurality of levels; and

said limiting access step includes a step of limiting subsets of said predetermined group of persons to different ones of said levels.

10

10. The method of claim 8 further comprising the steps of:
identifying said predetermined group of persons; and
assigning a password to each person in said predetermined group of persons.

15

11. The method of claim 8 wherein said establishing step includes a step of providing a location for dialogue in said patient information forum.

20

12. The method of claim 8 wherein said particular patient has an ailment; and

said establishing step includes a step of providing a link in said patient information forum to a database having information regarding said ailment.

25

13. The method of claim 8 wherein said networking step includes a step of providing a patient information system with a Internet address; and

5 networking said computer server to at least one Internet server.

14. The method of claim 8 further comprising the steps of: networking a special needs computer to said computer server; and

10 providing said special needs computer with at least one of a visually impaired computer interface, a touchscreen computer interface and a voice recognition computer interface.

15 15. The method of claim 8 further comprising a step of providing said patient information forum with a bulletin board location having new information added to said patient information forum.

16. A software program comprising:
20 means for establishing a patient information forum on a publicly accessible computer network;
 means for limiting access to said patient information forum to a predetermined group of persons; and
 means for posting information regarding a particular
25 patient on said patient information forum.

17. The software program of claim 16 wherein said means for limiting includes:

means for requesting a password; and

5 means for evaluating a password.

18. The software program of claim 16 further comprising means for enabling a dialogue among said predetermined group of persons.

10

19. The software program of claim 16 wherein a particular patient has an ailment; and

means for linking said patient information forum to a database having information regarding said ailment.

15

20. The software program of claim 17 wherein said means for limiting access includes a means for creating gradations of access dependent upon evaluation of said password.

Abstract

A patient information system comprises a computer server having a patient information forum for at least one patient. Each of the patient information forums contains information regarding an individual patient. A publicly accessible computer output device is networked to the computer server. Also networked to the computer server is a publicly accessible computer input device. A security subsystem is operably positioned between the patient information forum and the input device.

Figure 1

602611-00000000

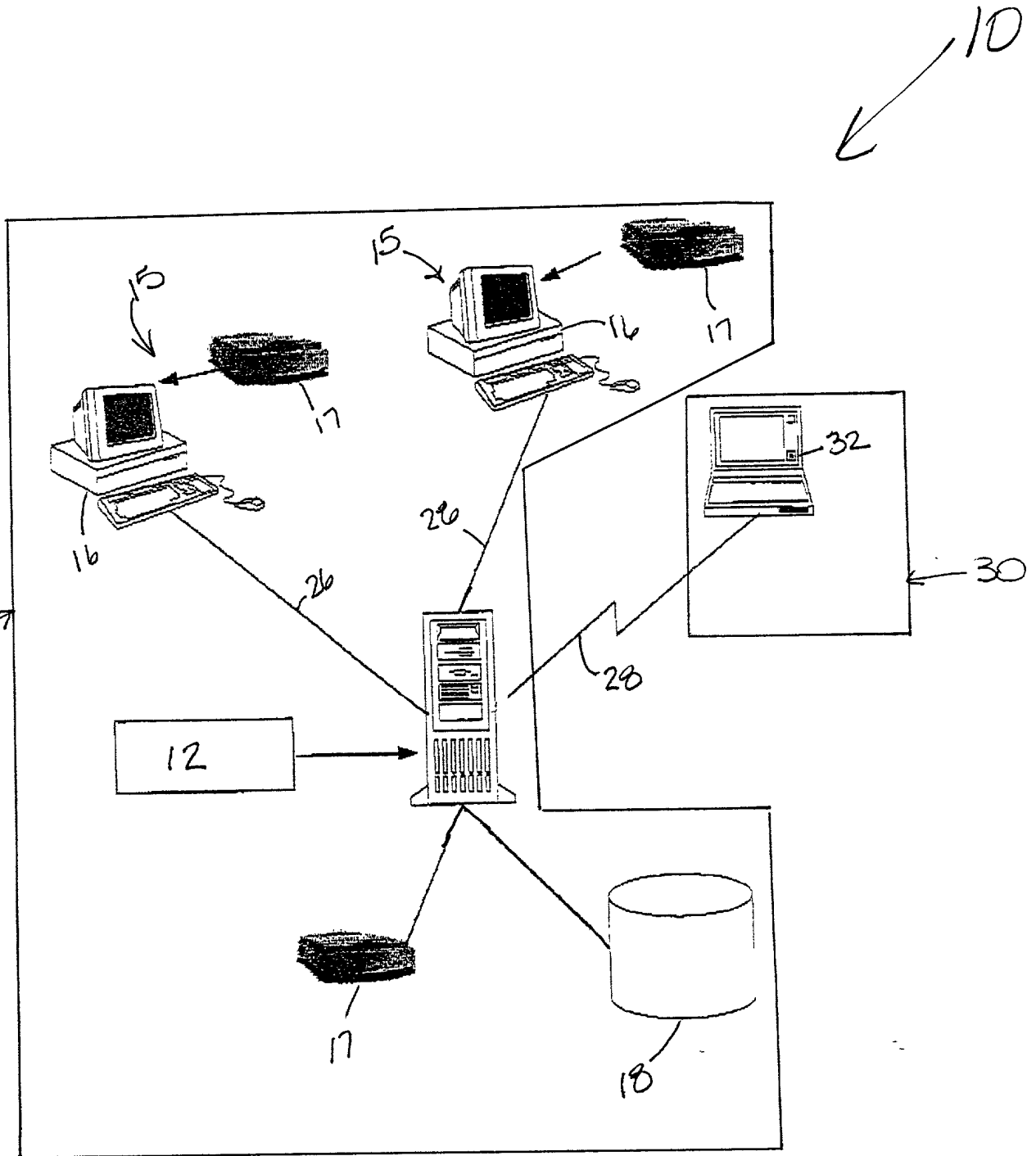


Figure 2

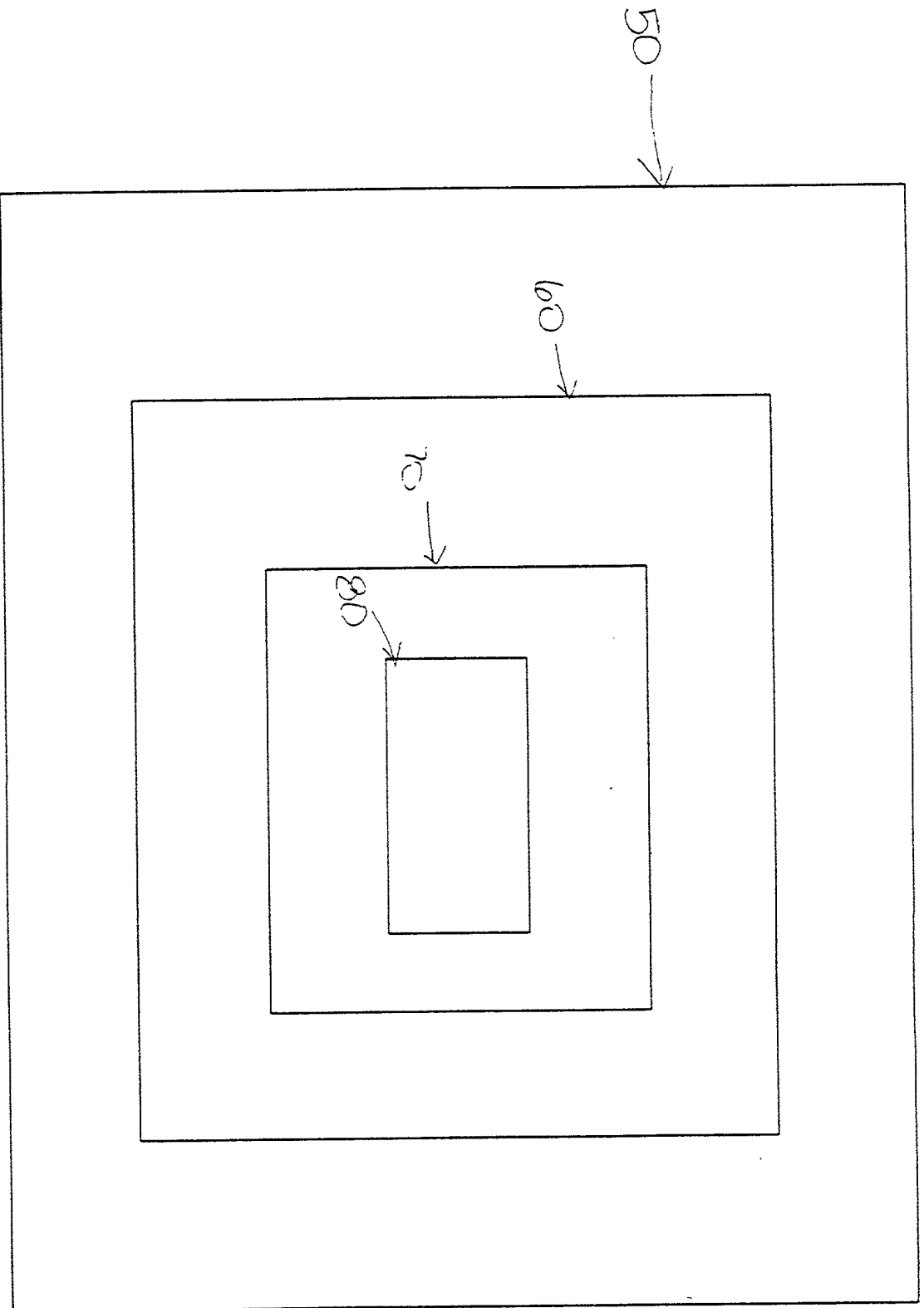
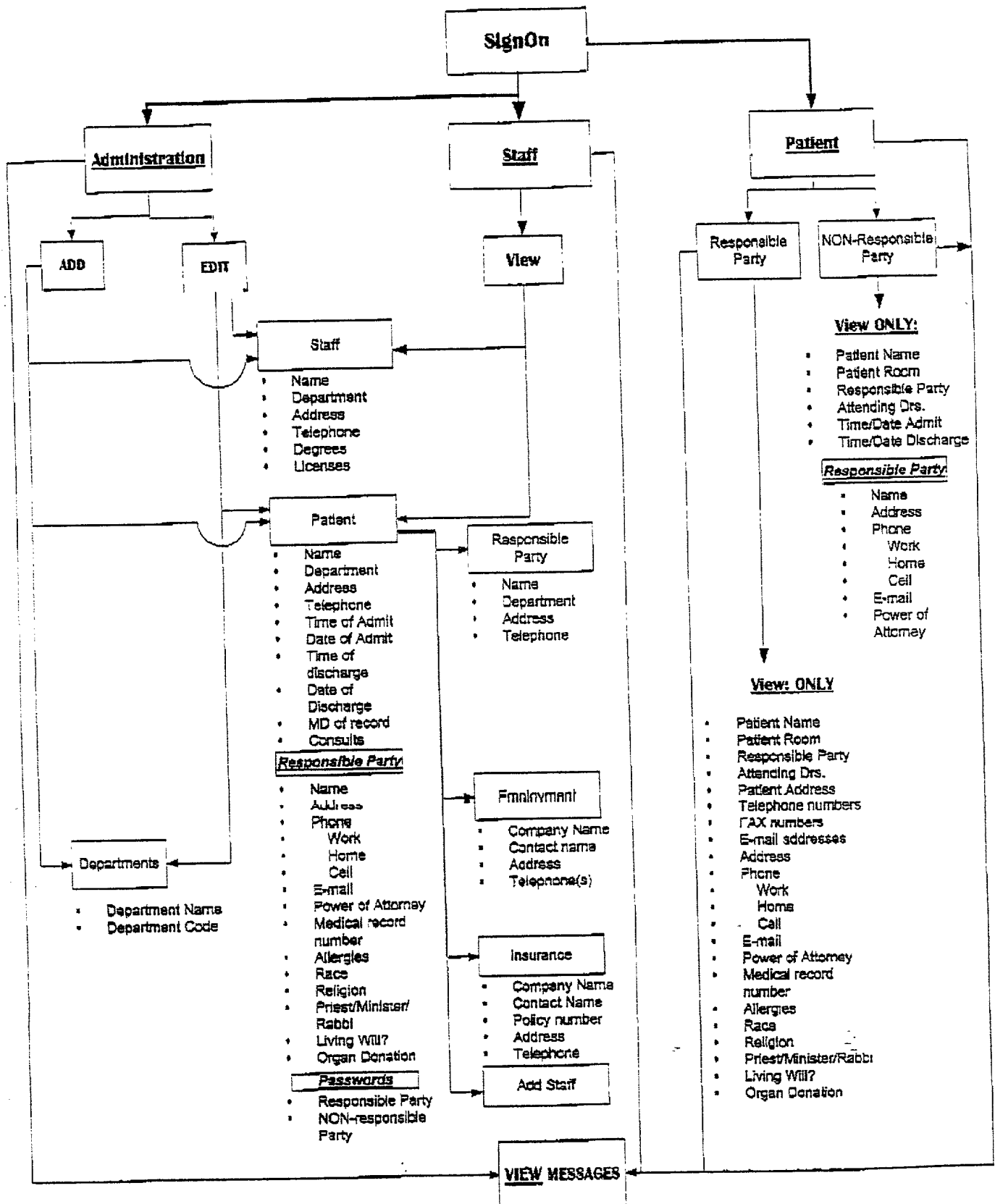


Figure 3

CONFIDENTIAL



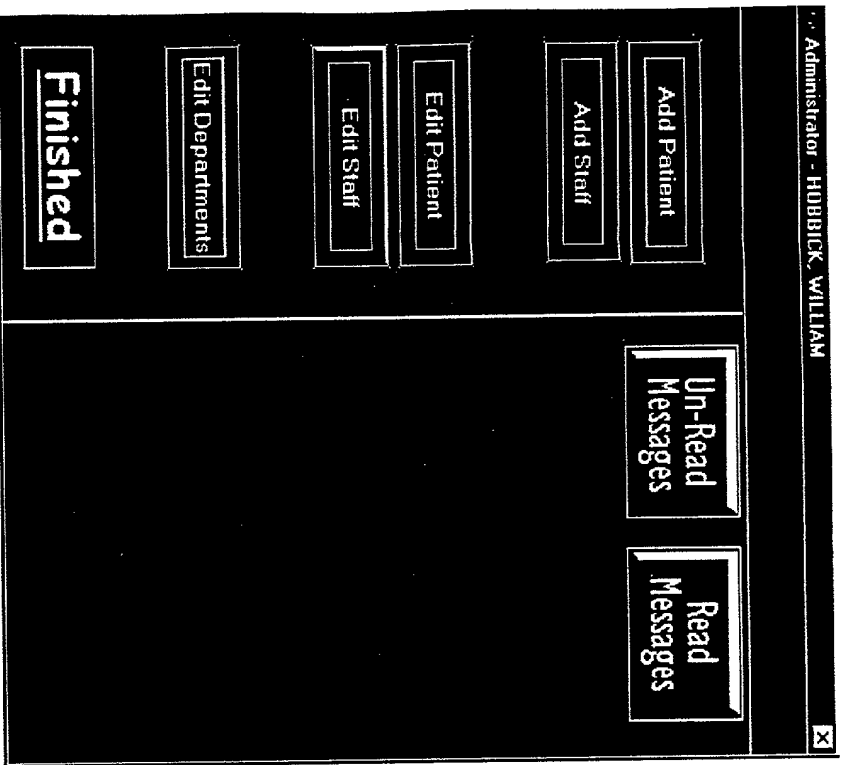


Fig. 4

Edit Patient		ASSIGN STAFF	PASSWORD	UPDATE	CLOSE
GOLDSMITH, WILMA - Outpatient - Outpatient					
Middle Initial	E.	Maiden Name	Fuller		
Social Security #	867945321	Time Of Admission	21/02/12	Time Of Release	
Date Of Birth	11/03/1902	Date Of Admission	10/15/1999	Date Of Release	/ /
Room	7732	Department	CCU		
Phone Numbers					
Home Phone	(754) 324-4323 Ext	Work Phone	(437) 903-7484 Ext		
Cell Phone	(489) 348-3948 Ext	E Mail			
Other					
Allergies	Sulfa				Add
MD of Reference	Dr. Jefferson				Add
Consulting MD	Dr. Peterson				Add
Race	Caucasian	Status	C-1		
Religion	NONE	Priest/Minister			
		<input checked="" type="checkbox"/> Organ Donator?			
<input checked="" type="checkbox"/> Living Will					
RESPONSIBLE PARTY		ADDRESS			
EMPLOYMENT		INSURANCE			
<div> <div>Un-Read Messages</div> <div>Read Messages</div> </div> <div> <div>Admin</div> <div>Physician</div> <div>Floor Nurse</div> </div> <div> <div>Laboratory</div> <div>Radiology</div> <div>Dietitian</div> </div> <div> <div>Rehab</div> <div>Patient Education</div> <div>Discharge Planner</div> </div> <div> <div>Social Services</div> <div>Other Dept.</div> <div>Patient</div> </div> <div>Leave Message</div>					

Fig. 5

Figure 346

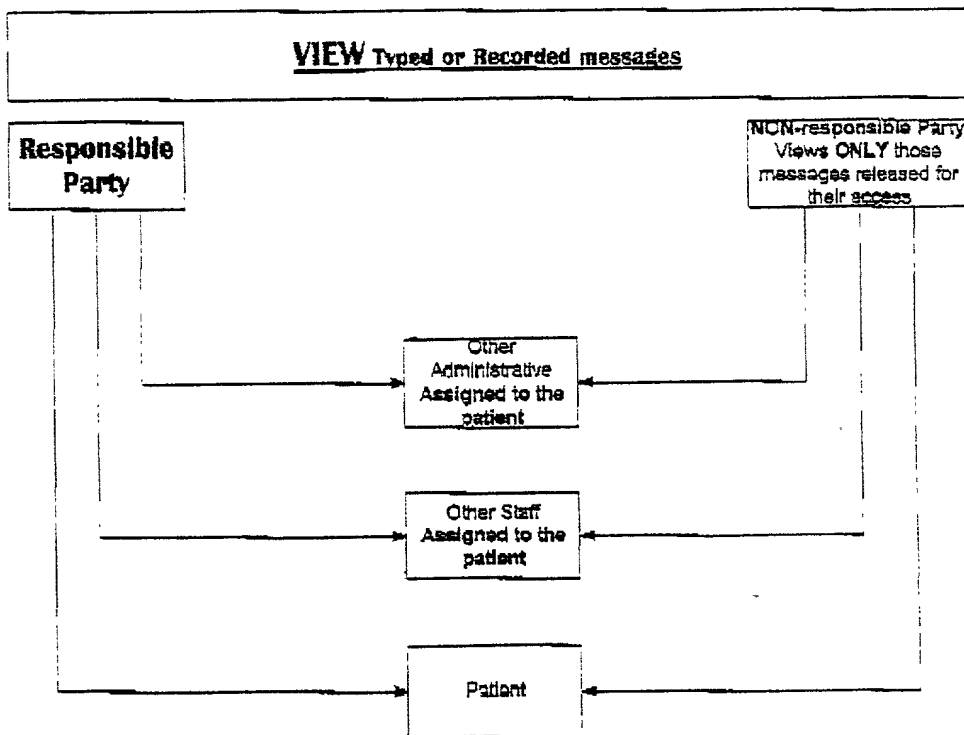
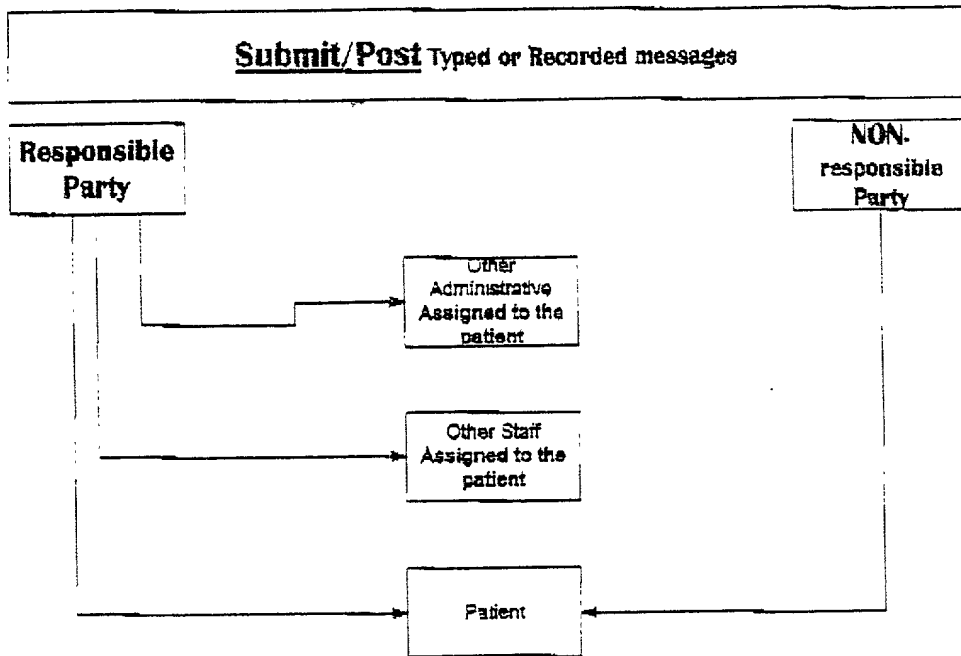
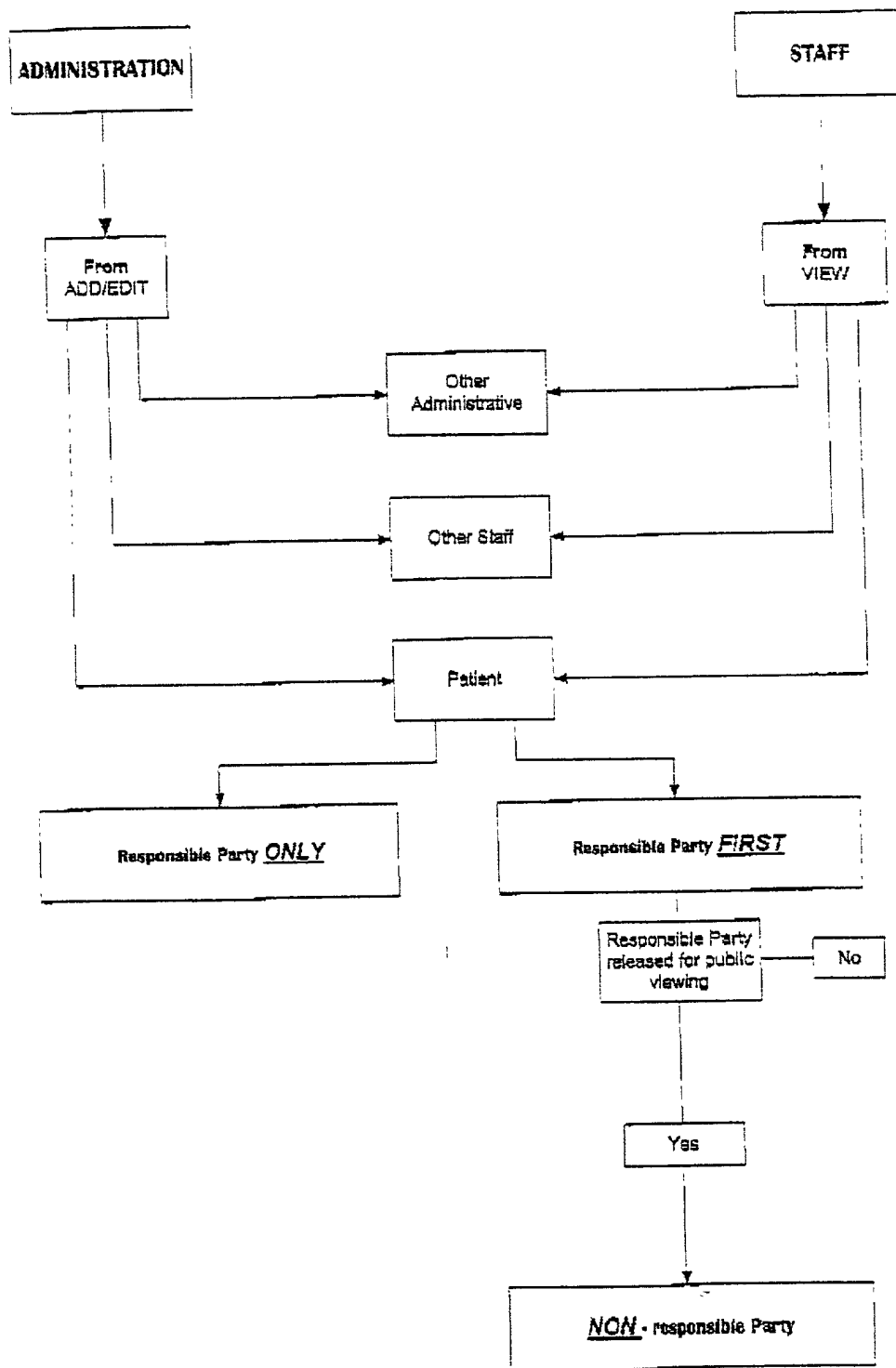


Figure ~~488~~ 7



Medical



Pt. Portal

Patient's Visitors Sign In

HELP

Please Enter Patient Name and Password

Last Name

First Name

Password

SIGN IN

(Touch or Click Here)

Fig. 8

Leave Message - Recipient Selection

From: GOLDSMITH, WILMA

POST MESSAGE

CLOSE

X













 Admin	 Physician	 Floor Nurse
 Laboratory	 Radiology	 Dietitian
 Rehab	 Patient Education	 Discharge Planning
 Social Services	 Other Dept.	 Patient

Fig. 9

Please type a plus sign (+) inside this box → ☐

PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)	Attorney Docket Number	Schepp-Turner
	First Named Inventor	Turner
	COMPLETE IF KNOWN	
	Application Number	/
	Filing Date	
	Group Art Unit	
<input checked="" type="checkbox"/> Declaration Submitted with Initial Filing	OR	<input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)
	Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Patient Information System and Method of Using Same

the specification of which (Title of the Invention)

☒ is attached hereto
OR
☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International Application Number and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date (MM/DD/YYYY)

☐ Additional provisional application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box →



PTO/SB/01 (12-97)
Approved for use through 9/30/00. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



DECLARATION — Utility or Design Patent Application

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s), or 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. 112, I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application or PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

☐ Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

☐ Customer Number

OR

☒ Registered practitioner(s) name/registration number listed below

Place Customer Number Bar Code Label here

Name	Registration Number	Name	Registration Number

☐ Additional registered practitioner(s) named on supplemental Registered Practitioner Information sheet PTO/SB/02C attached hereto.

Direct all correspondence to: ☐ Customer Number or Bar Code Label

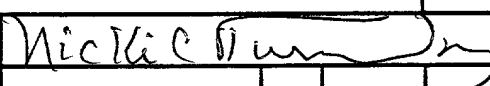
OR ☒ Correspondence address below

Name	Michael B. McNeil				
Address	P.O. Box 2417				
Address	511 S. Madison St.				
City	Bloomington	State	IN	ZIP	47402
Country	USA	Telephone	812-333-5355	Fax	812-333-3173

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:

☐ A petition has been filed for this unsigned inventor

Given Name (first and middle (if any))		Family Name or Surname	
Nicki C.		Turner	
Inventor's Signature			Date
Residence: City	Muncie	State	IN
Country	U.S.	Citizenship	U.S.
Post Office Address			
Post Office Address	4009 W. Cornbread Rd.		
City	Muncie	State	IN
ZIP	47302	Country	U.S.

☒ Additional inventors are being named on the supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto

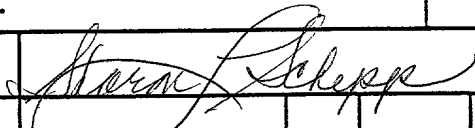
Please type a plus sign (+) inside this box → ☒

PTO/SB/02A (3-97)
Approved for use through 9/30/98. OMB 0651-0032
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

DECLARATION

ADDITIONAL INVENTOR(S)
Supplemental Sheet
Page 1 of 1

Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])				Family Name or Surname			
Sharon L.				Schepp			
Inventor's Signature				Date		11/16/99	
Residence: City		Muncie		State		IN	
				Country		US	
Post Office Address							
Post Office Address		2008 N. Valley Dr.					
City		Muncie		State		IN	
				ZIP		47304	
				Country		USA	
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])				Family Name or Surname			
Inventor's Signature				Date			
Residence: City				State			
				Country			
Post Office Address							
Post Office Address							
City				State			
				ZIP			
				Country			
Name of Additional Joint Inventor, if any:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])				Family Name or Surname			
Inventor's Signature				Date			
Residence: City				State			
				Country			
Post Office Address							
Post Office Address							
City				State			
				ZIP			
				Country			

Burden Hour Statement: This form is estimated to take 0.4 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.